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HEADLINE: Monsanto Hid Decades Of Pollution;
PCBs Drenched Ala. Town, But No One Was Ever Told

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BODY:

On the west side of Anniston, the poor side of Anniston, the people ate dirt. They called it "Alabama clay" and cooked it for extra flavor. They also grew berries in their gardens, raised hogs in their back yards, caught bass in the murky streams where their children swam and played and were baptized. They didn't know their dirt and yards and bass and kids -- along with the acrid air they breathed -- were all contaminated with chemicals. They didn't know they lived in one of the most polluted patches of America.

Now they know. They also know that for nearly 40 years, while producing the now-banned industrial coolants known as PCBs at a local factory, Monsanto Co. routinely discharged toxic waste into a west Anniston creek and dumped millions of pounds of PCBs into oozing open-pit landfills. And thousands of pages of Monsanto documents -- many emblazoned with warnings such as "CONFIDENTIAL: Read and Destroy" -- show that for decades, the corporate giant concealed what it did and what it knew.

In 1966, Monsanto managers discovered that fish submerged in that creek turned belly-up within 10 seconds, spurting blood and shedding skin as if dunked into boiling water. They told no one. In 1969, they found fish in another creek with 7,500 times the legal PCB levels. They decided "there is little object in going to expensive extremes in limiting discharges." In 1975, a company study found that PCBs caused tumors in rats. They ordered its conclusion changed from "slightly tumorigenic" to "does not appear to be carcinogenic."

Monsanto enjoyed a lucrative four-decade monopoly on PCB production in the United States, and battled to protect that monopoly long after PCBs were confirmed as a global pollutant. "We can't afford to lose one dollar of business," one internal memo concluded.

Last month, the Environmental Protection Agency ordered General Electric Co. to spend \$460 million to dredge PCBs it had dumped into the Hudson River in the past, perhaps the Bush administration's boldest environmental action to date. The decision was bitterly opposed by the company, but hailed by national conservation groups and many prominent and prosperous residents of the picturesque Hudson River Valley.

In Anniston, far from the national spotlight, the sins of the past are being addressed in a very different way. Here, Monsanto and its corporate successors have avoided a regulatory crackdown, spending just \$40 million on cleanup efforts so far. But they have spent \$80 million more on legal settlements, and another lawsuit by 3,600 plaintiffs -- one of every nine city residents -- is scheduled for trial next Monday. David Carpenter, an environmental health professor at the State University of New York at Albany, has been a leading advocate of the EPA's plan to dredge the Hudson, but he says the PCB problems in Anniston are much worse.

"I'm looking out my window at the Hudson right now, but the reality is that the people who live around the Monsanto plant have higher PCB levels than any residential population I've ever seen," said Carpenter, an expert witness for the plaintiffs in Anniston. "They're 10 times higher than the people around the Hudson."

The Anniston lawsuits have uncovered a voluminous paper trail, revealing an unusually detailed story of secret corporate machinations in the era before strict environmental regulations and right-to-know laws. The documents -- obtained by The Washington Post from plaintiffs' attorneys and the Environmental Working Group, a chemical industry watchdog -- date as far back as the 1930s, but they expose actions with consequences that are still unfolding today.

Officials at Solutia Inc., the name given to Monsanto's chemical operations after they were spun off into a separate company in 1997, acknowledge that Monsanto made mistakes. But they also said that for years, PCBs were hailed for preventing fires and explosions in electrical equipment. Monsanto did stop making PCBs in 1977, two years before a nationwide ban took effect. And the current scientific consensus that PCBs are harmful, especially to the environment, masks serious disputes over just how harmful they are to people.

Today, the old plant off Monsanto Road here makes a chemical used in Tylenol. It has not reported a toxic release in four years. Robert Kaley, the environmental affairs director for Solutia who also serves as the PCB expert for the American Chemistry Council, said it is unfair to judge the company's behavior from the 1930s through 1970s by modern standards.

"Did we do some things we wouldn't do today? Of course. But that's a little piece of a big story," he said. "If you put it all in context, I think we've got nothing to be ashamed of."

But Monsanto's uncertain legacy is as embedded in west Anniston's psyche as it is in the town's dirt. The EPA and the World Health Organization classify PCBs as "probable carcinogens," and while no one has determined whether the people in Anniston are sicker than average, Solutia has opposed proposals for comprehensive health studies as unnecessary. And it has not apologized for any of its contamination or deception.

In the absence of data, local residents seem to believe the worst. The stories linger: The cancer cluster up the hill. The guy who burned the soles off his boots while walking on Monsanto's landfill. The dog that died after a sip from Snow Creek, the long-abused drainage ditch that runs from the Monsanto plant through the heart of west Anniston's cinder-block cottages and shotgun houses. Sylvester Harris, 63, an undertaker who lived across the street from the plant, said he always thought he was burying too many young children.

"I knew something was wrong around here," he said.

Opal Scruggs, 65, has spent her entire life in west Anniston, the last few decades in a cottage in back of a Waffle House behind the plant. But in recent years, Monsanto has bought and demolished about 100 PCB-tainted homes and mom-and-pop businesses nearby, turning her neighborhood into a virtual ghost town. Now she has elevated PCB levels in her blood -- along with Harris and many of their neighbors -- and she believes she's a "walking time bomb."

"Monsanto did a job on this city," she said. "They thought we were stupid and illiterate people, so nobody would notice what happens to us."

Anniston was born at the height of the Industrial Revolution as a mineral-rich company town controlled by the Woodstock Iron Works, off-limits to all but company employees. It was named in 1879 for the foundry owner's wife -- Annie's Town -- but it was nicknamed "The Model City of the South" because it was supposed to be a kind of industrial utopia, a centrally planned rebuke to the North's slums after the Civil War. The company would provide the workers' cottages, the general store, the church, the schools. It would take care of the community.

Anniston retains its Model City slogan to this day, but its paternalistic social experiment was quickly abandoned. It soon developed into a heavy-industry boomtown, dominated by foundries and factories with 24-hour smokestacks. In 1929, one of those factories began manufacturing polychlorinated biphenyls, or PCBs.

Now that PCBs are considered "probable" human carcinogens by the EPA and the World Health Organization, it is easy to forget that they were once known as miracle chemicals. They are unusually nonflammable, and conduct heat without conducting electricity. Many safety codes once mandated the use of PCBs as insulation in transformers and other electrical equipment. They also were used in paints, newsprint, carbon paper, deep-fat fryers, adhesives, even bread wrappers. The American public had no idea of the downside of PCBs until the late 1960s.

Monsanto did. Shortly after buying the 70-acre plant at the foot of Coldwater Mountain in 1935, the company learned that PCBs, in the double negative of one company memo, "cannot be considered non-toxic." A 1937 Harvard study was the first to find that prolonged exposure could cause liver damage and a rash called chloracne. Monsanto then hired the scientist who led the study as a consultant, and company memos began acknowledging the "systemic toxic effects" of Aroclors, the brand name for PCBs. Monsanto also began warning its industrial customers to protect their workers from Aroclors by requiring showers after every shift, providing them with clean work clothes every day and keeping fumes away from factory floors.

One Aroclor manual reveals that "in the early days of development," workers at the Anniston plant had developed chloracne and liver problems. In February 1950, when workers fell ill at a customer's Indiana factory, Monsanto's medical director, Emmett Kelly, immediately "suspected the possibility that the Aroclor fumes may have caused liver damage."

Two years later, Monsanto signed an agreement with the U.S. Public Health Service to label Aroclors: "Avoid repeated contact with the skin and inhalation of the fumes and dusts." The company also warned its industrial customers about ecological risks: "If the material is discharged in large concentrations it will adversely affect . . . aquatic life in the stream." But it did not warn its neighbors. "It is our desire to comply with the necessary regulations, but to comply with the minimum," an official wrote.

In 1998, a former Anniston plant manager, William Papageorge, was asked in a deposition whether Monsanto officials ever shared their data about PCB hazards with the community.

"Why would they?" he replied.

In the fall of 1966, Monsanto hired a Mississippi State University biologist named Denzel Ferguson to conduct some studies around its Anniston plant. Ferguson, who died in 1998, arrived with tanks full of bluegill fish, which he caged in cloth containers and submerged at various points along nearby creeks. This is what he reported to Monsanto about the results in Snow Creek: "All 25 fish lost equilibrium and turned on their sides in 10 seconds and all were dead in 3 1/2 minutes."

"It was like dunking the fish in battery acid," recalled George Murphy, who was one of Ferguson's graduate students at the time and is now chairman of Middle Tennessee State University's biology department.

"I've never seen anything like it in my life," said Mack Finley, another former Ferguson grad student, now an aquatic biologist at Austin Peay State University. "Their skin would literally slough off, like a blood blister on the bottom of your foot."

The problem, Ferguson concluded, was the "extremely toxic" wastewater flowing directly from the Monsanto plant into Snow Creek, and then into the larger Choctawhatchee Creek, where he noted similar "die-offs." The outflow, he calculated, "would probably kill fish when diluted 1,000 times or so." He warned Monsanto: "Since this is a surface stream that passes through residential areas, it may represent a potential source of danger to children." He urged Monsanto to clean up Snow Creek, and to stop dumping untreated waste there.

Monsanto did not do that -- even though the warnings continued.

In early 1967, a group of Swedish scientists demonstrated publicly that PCBs were a threat to the global environment. The Swedes identified traces of PCBs throughout the food chain: in fish, birds, pine needles, even their children's hair. They proved that PCBs are persistent -- which, as one lawyer drawled in court last spring, "is nothing but a fancy word for 'won't go away.' " But Monsanto's primary response was to prepare for a media war.

"Please let me know if there is anything I can do . . . so that we may make sure our Aroclor business is not affected by this evil publicity," a Monsanto official wrote Kelly, the company medical director.

The first thing Monsanto's board did, in November 1967, was approve a \$2.9 million expansion of Aroclors operations in Anniston and Sauget, Ill. The vote was unanimous.

Records show that the Anniston plant did act to reduce its mercury releases after the Snow Creek fish kills. But it did not try to reduce PCB releases, even though the Anniston plant was leaking 50,000 pounds of PCBs into Snow Creek every year, while burying more than 1 million pounds of PCB-laced waste in its antiquated landfills. (By contrast, GE has been ordered to dredge 150,000 pounds of PCBs from the Hudson.) Jack Matson, a Pennsylvania State University environmental engineering professor who has consulted for Monsanto, concluded in a report for the Anniston plaintiffs that the company failed to observe even basic industry practices here. It had no catch basins, settling ponds or carbon filters to clean its wastewater. It washed spills straight into its sewers.

It was only in December 1968 -- after PCBs had been discovered in California wildlife, setting off a furor in the United States -- that Monsanto officials even began to write memos about controlling PCBs. "It only seems a matter of time before the regulatory agencies will be looking down our throats," one warned. A consultant scolded Monsanto to stop denying problems and start cleaning up: "The evidence regarding PCB effects on environmental quality is sufficiently substantial, widespread and alarming to require immediate corrective action."

Another memo -- labeled C-O-N-F-I-D-E-N-T-I-A-L, with each letter underlined twice -- said the company was finally thinking about limiting releases of Aroclors. But the memo did not go so far as to propose a cleanup -- "only action preparatory to actual cleanup."

"We should begin to protect ourselves," it said.

In September 1969, Monsanto appointed an Aroclors Ad Hoc Committee to address the controversies swirling around its PCB monopoly, which was worth \$22 million a year in sales. According to minutes of the first meeting, the committee had only two formal objectives: "Permit continued sales and profits" and "Protect image of . . . the Corporation."

But the members agreed that the situation looked bleak. PCBs had been found across the nation in fish, oysters and even bald eagles. They had been identified in milk in Georgia and Maryland. They were implicated in a major shrimp kill in Florida. Their status as a serious pollutant, the committee concluded, was "certain."

"Subject is snowballing," one member jotted in his notes. "Where do we go from here?"

One option, as a member put it, was to "sell the hell out of them as long as we can." Another option was to stop making them immediately. But the committee instead recommended "The Responsible Approach" -- phasing out its PCB products, but only once it could develop alternatives. The idea was to maintain "one of Monsanto's most profitable franchises" as long as possible while taking care to "reduce our exposure in terms of liability." The committee even drew up graphs charting profits vs. liability over time, and urged more studies to poke holes in the government's case against PCBs.

But the company's own tests on rats, chickens and even dogs proved discouraging. "The PCBs are exhibiting a greater degree of toxicity than we had anticipated," reported the committee chairman. Fish tests were worse: "Doses which were believed to be OK produced 100% kill." The chairman pressured the company's consultants for more Monsanto-friendly results, but they replied: "We are very sorry that we can't paint a brighter picture at the present time."

The picture was not bright in Anniston, either. Company studies were finding "ominous" concentrations of PCBs in streams and sediments. In Choccolocco Creek, Monsanto had discovered deformed and lethargic fish with off-the-charts

PCB levels, including a blacktail shiner with 37,800 parts per million. The legal maximum was only 5 parts per million. "It is apparent to us that there is a cause-and-effect relationship," the consultants wrote.

At first, the committee members proposed reducing PCB releases to an "absolute minimum." But then they removed the word "absolute." They saw no benefit in a unilateral crackdown on Monsanto's PCBs when Monsanto's customers were still dumping, too: "It was agreed that until the problems of gross environmental contamination by our customers have been alleviated, there is little object in going to expensive extremes in limiting discharges."

And before Monsanto even began to phase out its best-selling PCBs, its top customer intervened: General Electric, according to a memo by Papageorge, insisted that it needed to keep buying PCBs to prevent power outages and that the environmental threat was still "questionable." Monsanto agreed to slow down its plan, and kept making PCBs until 1977, although only for closely monitored industrial uses.

And what, Kaley asks, is wrong with that? Corporations, after all, have obligations to their shareholders, and the federal law banning the manufacture of PCBs did not take effect until 1979. Monsanto's critics, Kaley says, do not understand capitalism.

"Look, this was a good product," Kaley said. "Did we try to save it as long as we could? Absolutely. Was the writing on the wall when we stopped producing it? Sure. But we did stop."

By May 1970, PCBs were a hot topic in the national media. Members of Congress were calling for hearings. It seemed like only a matter of time before regulators would notice the river of PCBs spewing out of the Anniston plant. "This would shut us down depending on what plants or animals they choose to find harmed," the committee had warned.

So Monsanto decided to inform the Alabama Water Improvement Commission (AWIC) on its own that PCBs were entering Snow Creek. And AWIC helped the company keep its toxic secrets.

According to a company memo, AWIC's technical director, Joe Crockett, had been "totally unaware of published information concerning Aroclors." The Monsanto executives assured him that everything was under control, and Crockett, who is now deceased, said he appreciated their forthright approach. "Give no statements or publications which would bring the situation to the public's attention," he told them, according to the memo.

"In summary . . . the full cooperation of the AWIC on a confidential basis can be anticipated," the memo concluded.

That summer, Crockett again came to Monsanto's rescue after the federal Food and Drug Administration found PCB-tainted fish in Choccolocco Creek. (There were no fish -- or any other aquatic life -- in Snow Creek.) Monsanto's managers told him not to worry, saying they hoped to reduce PCB emissions to 0.1 pounds per day by September.

"Crockett will try to handle the problem quietly without release of the information to the public at this time," announced a memo marked CONFIDENTIAL: F.Y.I. AND DESTROY. Crockett explained that if word leaked out, the state would be forced to ban fishing in Choccolocco Creek and a popular lake downstream to ensure public safety.

Instead, the public kept fishing. But Monsanto's daily PCB losses, after dipping from a high of 250 pounds to a low of 16 pounds, ballooned to 88 pounds -- 880 times its goal.

"There is extreme reluctance to report even relatively low emission figures because the information could be subpoenaed and used against us in legal actions," wrote an executive at Monsanto headquarters in St. Louis. "Obviously, having to report these gross losses multiplies, enormously, our problems because the figures would appear to indicate lack of control. . . . Is there anything more that can be done to get the losses down?"

There was. The problem had festered for 36 years, but the Anniston managers finally began to act that fall, installing a sump, a carbon bed and a new limestone pit to trap PCBs. And in 1971, facing as much as \$1 billion in additional pollution control costs in Anniston, Monsanto shifted all PCB production to its plant in Illinois.

Before the year was over, Crockett helped out once more. The Justice Department was considering a lawsuit against Monsanto over PCBs, and the EPA wanted it to dredge Snow Creek. So Crockett set up a meeting between Monsanto

and an EPA regulator and helped argue the company's case. The company's problems disappeared. One executive noted with relief in a memo that a federal prosecutor had tried but failed to obtain Monsanto's customer list: "I shudder to think how easily it would have been for someone . . . to start spilling the beans as to whom we have been selling PCB products."

Monsanto's luck with regulators held in 1983, when the federal Soil Conservation Service found PCBs in Choccolocco Creek, but took no action. In 1985, state authorities found PCB-tainted soils around Snow Creek, but a dispute over cleanup details lingered until a new attorney general named Donald Siegelman took office in 1988. In a letter that April, Monsanto's Anniston superintendent thanked Siegelman -- who is now the state's Democratic governor -- for addressing the Alabama Chemical Association, and meeting Monsanto's lobbyists for dinner. Then he got to the point: Monsanto wanted to go forward with its own cleanup plan, dredging just a few hundred yards of Snow Creek and its tributaries.

The company soon received approval to do just that.

A spokesman for Gov. Siegelman noted that in April 2000, he wrote to President Bill Clinton about Anniston's PCBs, pointing out "the severity of the situation" and requesting federal funding. But several state officials acknowledged that a dozen years earlier, Alabama should have tested a much larger area for PCBs before approving Monsanto's limited plan.

"It's hard to know how that one slipped through the cracks," said Stephen Cobb, the state's hazardous waste chief. "For some reason, no one investigated the larger PCB problem."

The larger problem finally burst into public view in 1993, after a local angler caught deformed largemouth bass in Choccolocco Creek. After studies again detected PCBs, Alabama issued the first advisories against eating fish from the area -- 27 years after Monsanto learned about those bluegills sliding out of their skins.

By 1996, state officials and plaintiffs' attorneys were finding astronomical PCB levels in the area: as high as 940 times the federal level of concern in yard soils, 200 times that level in dust inside people's homes, 2,000 times that level in Monsanto's drainage ditches. The PCB levels in the air were also too high. And in blood tests, nearly one-third of the residents of the working-class Sweet Valley and Cobbtown neighborhoods near the plant were found to have elevated PCB levels. The communities were declared public health hazards. Near Snow Creek, the state warned, "the increased risk of cancer is estimated to be high."

That's when Monsanto launched a program to buy and raze contaminated properties, offering early sign-up bonuses and moving expenses as incentives. "Monsanto intends to be a good neighbor -- to those who wish to leave, and to those who wish to stay," its brochures explained.

Sally Franklin, a 64-year-old retired mechanic with a girlish voice, decided to stay; she couldn't afford to buy a new home with the money Monsanto was offering. One spring afternoon, she looked down from her PCB-contaminated home overlooking what used to be Sweet Valley, now just an overgrown field around an incongruous stop sign. So much for good neighbors, she grumbled.

"They must not think we know a black cow can give white milk," she said.

Anniston is not much of a model city anymore. The EPA officials who set up an Anniston satellite office to deal with the PCB problem are now alarmed about widespread lead poisoning as well. The Army is building an incinerator here to burn 2,000 tons of deadly sarin and mustard gas. And the Anniston Star has been questioning Monsanto's past mercury releases.

Duane Higgins runs the Chamber of Commerce here in Calhoun County -- motto: "Near Atlanta . . . Near Birmingham . . . Near Perfect" -- and like many civic leaders here, he's sick of headlines about pollution. "I'm tired of paying for the sins of our fathers and grandfathers," he said. "I don't see the point of dredging this stuff up."

He meant that literally, too. Local activists want Monsanto to dredge all its PCBs out of Anniston's creeks and move all its buried PCBs to hazardous-waste landfills. That could cost billions of dollars. But state and EPA officials do not

agree that such drastic measures are necessary. They have no evidence that PCBs have escaped from the dumps since Monsanto was required to cap them after a spill in 1996; they believe most of Anniston's PCBs spread from the creeks during floods. And dredging projects such as the one approved for the Hudson River remain scientifically as well as politically controversial.

"There's a very pervasive problem in Anniston, but so far we haven't seen a need for those kinds of dramatic actions," said Wesley Hardegree, an EPA corrective action specialist.

Part of the problem is that despite all the publicity, much remains unknown about PCBs. Various animal studies have linked them to various cancers. Other studies suggest possible ties to low IQs, birth defects, thyroid problems, immune problems, diabetes. A federal research summary titled "Do PCBs Affect Human Health?" concluded: "No smoking gun . . . but plenty of bullets on the floor."

But no one has found a link between PCBs and any cancer as definitive as the link between, say, cigarettes and lung cancer. A recent GE-funded study -- conducted by the same toxicologist who originally discovered that PCBs cause cancer in rats -- found no link to cancer in humans. And some independent scientists remain skeptical of any serious health effects from real-world PCB exposure.

Today, Solutia is negotiating a final Anniston cleanup plan; EPA officials say the company has been aggressive in pressing for lower standards but generally cooperative. It employs 85 workers in Anniston, and donates computers and science labs to area schools. Its brochures pledge to "insure environmental safety and health for the community" and to hide nothing from Anniston residents: "You have a right to know, and we have a responsibility to keep you, our valued neighbor, informed."

"We don't have horns coming out of our head," said David Cain, the current manager of the Solutia plant in Anniston. "We're not evil people."

Still, the company's credibility problems linger in Anniston. A recent company e-mail revealed that even the gifts of computers and labs were part of a new damage-control strategy, along with donations to Siegelman's inaugural fund: "The strategy calls for significantly increasing . . . community outreach, contributions and political involvement while aggressively seeking . . . to contain media issues regionally." The company's critics say little has changed. And they warn that Monsanto, which no longer produces chemicals, is now promising the world that its genetically engineered crops are safe for human consumption.

"For years, these guys said PCBs were safe, too," said Mike Casey of the Environmental Working Group, which has been compiling chemical industry documents on the Web. "But there's obviously a corporate culture of deceiving the public."

On Jan. 7, the two sides will have their day in court. Kaley said his company has nothing to hide.

"I'm really pretty proud of what we did," Kaley said. "Was it perfect? No. Could we be second-guessed? Sure. But I think we mostly did what any company would do, even today."

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